Study	Title	Journal	Volume	Issue
Schulte 2016	In patients with acute flail chest does surgical rib fixation improve outcomes in terms of morbidity and mortality?	Interactive cardiovascular and thoracic surgery	23	2
Short 1996	Evaluation of intrapleural analgesia in the management of blunt traumatic chest wall pain: a clinical trial	Am Surg	62	6
Britt 2015	Comparative evaluation of continuous intercostal nerve block or epidural analgesia on the rate of respiratory complications, intensive care unit, and hospital stay following traumatic rib fractures: a retrospective review	Local Reg Anesth	8	
Buyukkarabacak 2015	The Usefulness of Early Surgical Rib Stabilization in Flail Chest	Acta Chir Belg	115	6
Heidari 2019	Comparison of epidural block and apotel in controlling pain among patients with rib fracture	International Journal of Pharmaceutical Research	11	2
Gabram 1995	Clinical management of blunt trauma patients with unilateral rib fractures: a randomized trial	World J Surg	19	3
Liu 2018	Surgical versus conservative therapy for multiple rib fractures: a retrospective analysis	Ann Transl Med	6	22
Uchida 2017	Evaluation of efficacy and indications of surgical fixation for multiple rib fractures: a propensity-score matched analysis	Eur J Trauma Emerg Surg	43	4
Liu 2019	A Randomized Controlled Trial of Surgical Rib Fixation in Polytrauma Patients With Flail Chest	J Surg Res	242	
Riccardi 2019	Efficacy and tolerability of fixed association of oxycodone and naloxone in elderly patients with ribs fracture: An 18-month retrospective study	Emergency Care Journal	15	2
Hashemzadeh 2011	Comparison thoracic epidural and intercostal block to improve ventilation parameters and reduce pain in patients with multiple rib fractures	J Cardiovasc Thorac Res	3	3
Ullman 1989	The treatment of patients with multiple rib fractures using continuous thoracic epidural narcotic infusion	Reg Anesth	14	1
Javle 2015	Flail chest in polytraumatized patients: surgical fixation using Stracos reduces ventilator time and hospital stav	Biomed Res Int	2015	
Maiercik 2015	In-hospital outcomes and costs of surgical stabilization versus nonoperative management of severe rib fractures	Journal of Trauma and Acute Care Surgery	79	4
Malekpour 2017	Analessic Choice in Management of Rib Fractures: Paravertebral Block or Foidural Analessia?	Anesth Analg	124	6
Nirula 2006	The fractive stabilization in patients sustaining blunt chest injury	Am Surg	72	4
Khandelwal 2011	A prospective single center study to assess the impact of surgical stabilization in patients with rib fracture	Int I Surg	9	6
Girsowicz 2012	Dees surgical stabilization improve outcomes in patients with isolated multiple distracted and painful non-flail rib fractures?	Interactive Cardiovascular and Thoracic Surgery	14	3
Xu 2015	Sets short-term efficacy of treating severe flail chest with internal fixation survey compared with conservative treatments	Fur I Med Res	20	1
Velasquez 2016	Construction Non-Antiper Television and the first market and the second and the construction of additional and the second and	Am Surg	87	5
Agamohammdi 2018	operante tenso monoperante managemento i manaperio in tecenco A Comparison of Continuous Thoracie Foldural Analesia with Reinvorsaine Versus Runivasaine and Devmedetomidine for Pain Control in Patients with Multiple Bib Fractures	Anesth Pain Med	8	2
Actrn 2018	comparison of two twos of regional nerve block (exector spinged and executed spinged and exact the pair council of the function of two twos of regional nerve block (exector spinged and exact the pair council of the pair council of the function of two twos of the pair council of the pai	http://www.who.int/trialsearch/Trial2.aspy2TrialID=ACTRN12618001786280	5	
Xu 2015	Reter short-term effective of treating severe fail shoet with internal feature senter compared with concentrative treatment compared and the concentrative treat	Furonean Journal of Medical Research	20	1
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Denghan 2014	rian cress injuries: a review or oucomes and readment practices from the National Fraum builds Bank	a Trauma Acute Care Surg	76	2
bacomenkuimi 2019	Potential benefitis of internates spiroberty following a no tracture: a propensity score analysis	cjem A star	21	4
Wei 2019	Implementation of a multi-modal pain regimen to decrease inpatient opioid exposure after injury	Am J Surg	218	6
Marasco 2013	Prospective randomized controlled trial of operative rib fixation in traumatic flail chest	Journal of american college of surgeons	on line	
Yeh 2012	Epidural analgesia for blunt thoracic injurywhich patients benefit most?	Injury	43	10
Kocher 2017	Chest wall stabilization in ventilator-dependent traumatic flail chest patients: who benefits?	Eur J Cardiothorac Surg	51	4
Said 2014	Surgical stabilization of flail chest: the impact on postoperative pulmonary function	Eur J Trauma Emerg Surg	40	4
Jensen 2017	Improved Outcomes Associated with the Liberal Use of Thoracic Epidural Analgesia in Patients with Rib Fractures	Pain Med	18	9
Leininger 2017	Rib Fracture Protocol Advancing the Care of the Elderly Patient	Crit Care Nurs Q	40	1
Yang 2014	Use of ketorolac is associated with decreased pneumonia following rib fractures	Am J Surg	207	4
Ge 2017	Thoracic paravertebral block versus intravenous patient-controlled analgesia for pain treatment in patients with multiple rib fractures	Journal of International Medical Research	45	6
Sadler 2019	Bedside Incentive Spirometry Predicts Risk of Pulmonary Complication in Patients with Rib Fractures	Am Surg	85	9
Osinowo 2004	Effect of intercostal nerve block with 0.5% bupivacaine on peak expiratory flow rate and arterial oxygen saturation in rib fractures	J Trauma	56	2
Majercik 2015	Surgical stabilization of severe rib fractures decreases incidence of retained hemothorax and empyema	Am J Surg	210	6
Truitt 2011	Continuous intercostal nerve blockade for rib fractures: ready for primetime?	J Trauma	71	6
Holcomb 2003	Morbidity from rib fractures increases after age 45	J Am Coll Surg	196	4
Olland 2019	Surgical stabilization for multiple rib fractures: whom the benefit? -a prospective observational study	J Thorac Dis	11	Suppl 2
Govindarajan 2002	Epidural buprenorphine in management of pain in multiple rib fractures	Acta Anaesthesiol Scand	46	6
Parris 2007	Epidural analgesia/anaesthesia versus systemic intravenous opioid analgesia in the management of blunt thoracic trauma	Emergency Medicine Journal	24	12
Mohta 2009	Prospective, randomized comparison of continuous thoracic epidural and thoracic paravertebral infusion in patients with unilateral multiple fractured ribsa pilot study	J Trauma	66	4
Moore 1975	Operative stabilization of nonpenetrating chest injuries	J Thorac Cardiovasc Surg	70	4
Mullens 2019	A Statewide Assessment of Rib Fixation Patterns Reveals Missed Opportunities	J Surg Res	244	
Luchette 1994	Prospective evaluation of epidural versus intrapleural catheters for analgesia in chest wall trauma	J Trauma	36	6
Paris 1975	Surgical stabilization of traumatic flail chest	Thorax	30	5
Kasotakis 2016	Operative fixation of rib fractures after blunt trauma: a practice management guideline from the Eastern Association for the Surgery of Trauma	Journal of trauma and acute care surgery	82	3
Dittmann 1975	EPIDURAL ANALGESIA FOR TREATMENT OF MULTIPLE RIB FRACTURES	European Journal of Intensive Care Medicine	1	2
Howell 1963	THE FLAIL CHEST. AN ANALYSIS OF 100 PATIENTS	Am J Surg	106	
Shibahashi 2019	Effect of surgical rib fixation for rib fracture on mortality: A multicenter, propensity score matching analysis	J Trauma Acute Care Surg	87	3
Roberts 2014	The role of non-invasive ventilation in blunt chest trauma: systematic review and meta-analysis	European Journal of Trauma and Emergency Surgery	40	5
Tanaka 2002	Surgical Stabilization of Internal Pneumatic Stabilization?A Prospective Randomized Study of Management of SevereFlail Chest Patients	Journal of trauma injury infection and critical care	52	
Pieracci 2020	A Multicenter, Prospective, Controlled Clinical Trial of Surgical Stabilization of Rib Fractures in Patients with Severe, Non-flail Fracture Patterns	J Trauma Acute Care Surg	88	2
Pieracci 2016	A prospective, controlled clinical evaluation of surgical stabilization of severe rib fractures	J Trauma Acute Care Surg	80	2
Kieninger 2005	Epidural versus intravenous pain control in elderly patients with rib fractures	Am J Surg	189	3
Kelley 2019	Early Use of a Chest Trauma Protocol in Elderly Patients with Rib Fractures Improves Pulmonary Outcomes	Am Surg	85	3
Schuurmans 2017	Operative management versus non-operative management of rib fractures in flail chest injuries: a systematic review	Eur J Trauma Emerg Surg	43	2
Shi 2017	Effects of mechanism of injury and patient age on outcomes in geriatric rib fracture patients	Trauma Surg Acute Care Open	2	1
Slobogean 2013	Surgical fixation vs nonoperative management of flail chest: a meta-analysis	J Am Coll Surg	216	2
Galvagno 2016	Pain management for blunt thoracic trauma: A joint practice management guideline from the Eastern Association for the Surgery of Trauma and Trauma Anesthesiology Society	Journal of Trauma and Acute Care Surgerv	81	5
Zhang 2015	Comparison of sureical fixation and nonsureical management of flail chest and pulmonary contusion	Am I Emerg Med	33	7
Kugler 2019	Ketamine infusion for pain control in elderly patients with multiple rib fractures: Results of a randomized controlled trial	J Trauma Acute Care Surg	87	5
Gage 2014	The effect of epidural placement in patients after blunt thoracic trauma	J Trauma Acute Care Surg	76	1
Pyke 2017	Admission of elderly blunt thoracic trauma patients directly to the intensive care unit improves outcomes	J Surg Res	219	<u> </u>
Qiu 2016	Potential Benefits of Rib Fracture Fixation in Patients with Flail Chest and Multiple Non-flail Rib Fractures	Indian J Surg	78	6
Taylor 2016	Clinical Outcomes of Surgical Stabilization of Flail Chest Injury	I Am Acad Orthon Surg	24	8
OžówConnell 2019	Decreased cick of dollinum with use of control and local in pariative trauma nations with multiple of fractures	Annals of Surgery	268	3
Cataneo 2015	Secretarian intervention intervention of regioner originate in generate downer partents with monoper no motore's	Cochrane Database Syst Rev	200	7
Peek 2010	Surgeon rectain nonsequent recentions for trainable offer	Eur Trauma Emerg Surg	45	4
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Majood 2018	A spectra croation or cytation or cytation or centering the paint control and restoration or ventuatory function romawing management of the factures of control and restoration of ventuatory function romawing management of the sectores of control and restoration of ventuatory function romawing management of the sectores of control and restoration of ventuatory function romawing management of the sectores of control and restoration of ventuatory function romawing management of the sectores of the sectores of the sectores of ventuatory function restoration of the sectores of ventuatory function restoration of ventuatory function restoration of the sectores of the sectores of ventuatory function restoration of ventuatory function restoration of ventuatory function restoration of ventuatory function restoration of the sectores of ventuatory function restoration of ventuatory function restoration restoration of ventuatory function restoration of ventuatory function restoration restoratio	LAvub Med Coll Abbottabad	30	4
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Lynch 2019 Mackersie 1987	Nor results of results conservative management of micro micro micro management of isolated multiple rib fractures Comparative effectiveness analysis of two regional analgesia techniques for the pain management of isolated multiple rib fractures Continuous epidural fentanyl analgesia: ventilatory function improvement with routine use in treatment of blunt chest injury Load total function of administrative blue motion and blunders of Bell doed	J Pain Res J Trauma	12 27	11

Muhm 2013	Severe trauma of the chest wall: surgical rib stabilisation versus non-operative treatment	Eur J Trauma Emerg Surg	39	3
Coughlin 2016	Management of rib fractures in traumatic flail chest & META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS	Bone & Joint Journal	98B	8
Majorcik 2014		Am LSurg	202	1
Wajercik 2014	Longreenin partent outcomes after surgical stabilization of no nactures	ANT I G	208	1
Marasco 2009	Pliot study of operative fixation of tractured riss in patients with fiail cnest	ANZ J Surg	79	11
Chiumello 2013	Noninvasive ventilation in chest trauma: systematic review and meta-analysis	Intensive Care Medicine	39	7
Campbell 2009	Surgical stabilization of rib fractures using Inion OTPS wrapstechniques and quality of life follow-up	J Trauma	67	3
Carrie 2018	Bundle of care for blunt chest trauma patients improves analgesia but increases rates of intensive care unit admission: A retrospective case-control study	Anaesth Crit Care Pain Med	37	3
Hernandez 2010	Noninvasive Ventilation Reduces Intubation in Chest Trauma-Related Hypoxemia A Randomized Clinical Trial	Chest	137	1
Flarity 2017	Guideline-Driven Care Improves Outcomes in Patients with Traumatic Rib Fractures	Am Surg	83	9
Kane 2018	Surgical Stabilization of Rib Fractures: A Single Institution Experience	I Am Coll Surg	226	6
Hornandoz 2010	month of secretic place and process and increasing contract values of the chart trauma	Local Reg Aposth	12	-
Hernaldez 2015	Impact or seriates plane block on pain scores and incentive spironeerly volumes after crest tradina		20	1
Haenel 1995	Extrapleura bupyacame for amenoration of multiple no fracture pain		30	1
Kasotakis 2017	Operative fixation of rib fractures after blunt trauma: A practice management guideline from the Eastern Association for the Surgery of Trauma	J Trauma Acute Care Surg	82	3
Gunduz 2005	A comparative study of continuous positive airway pressure (CPAP) and intermittent positive pressure ventilation (IPPV) in patients with flail chest	Emerg Med J	22	5
Jiang 2019	Comparison of the Effectiveness of Surgical Versus Nonsurgical Treatment for Multiple Rib Fractures Accompanied with Pulmonary Contusion	Ann Thorac Cardiovasc Surg	25	4
Rankin 1984	Management of fifty cases of chest injury with a regimen of epidural bupivacaine and morphine	Anaesth Intensive Care	12	4
Halub 2017	High-flow nasal cannula therapy for patients with blunt thoracic injury: A retrospective study	Canadian Journal of Respiratory Therapy	53	1
Granetzny 2005	Surgical versus conservative treatment of flail chest. Evaluation of the pulmonary status	Interact Cardiovasc Thorac Surg	4	6
Karmakar 2003	Continuous thoracic paravertebral infusion of hupivacaine for pain management in patients with multiple fractured ribs	Chest	123	2
Fokin 2019	Outrome Analysis of Surgical Stabilization of Rib Fractures in Trauma Patients	LOrthon Trauma	33	- 1
Corokonoulos 2010	Outcome many so of suggest submission of the control in the mark of the and the Markelike Bate in Maior Trauma Batients: A Comparative Study in a UK Maior Trauma Conter	LOrthop Trauma	22	1
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wu 2015	wnich is better to multiple no tractures, surgical treatment or conservative treatment?	INT J CIIN EXP IVIED	8	5
Carver 2019	Ketamine intusion for pain control in adult patients with multiple rib fractures: Results of a randomized control trial	J Irauma Acute Care Surg	86	2
Doben 2014	Surgical rib fixation for flail chest deformity improves liberation from mechanical ventilation	J Crit Care	29	1
Carrier 2009	Effect of epidural analgesia in patients with traumatic rib fractures: a systematic review and meta-analysis of randomized controlled trials	Can J Anaesth	56	3
Gonzalez 2015	A pilot single-institution predictive model to guide rib fracture management in elderly patients	J Trauma Acute Care Surg	78	5
Wu 1999	Thoracic epidural analyzesia versus intravenous patient-controlled analyzesia for the treatment of rib fracture pain after motor vehicle crash	J Trauma	47	3
Wiiffels 2018	Farly results after operatively versus non-operatively treated fail chest- a retrospective study focusing on outcome and complications	Fur I Trauma Emerg Surg	46	3
doMovo 2011	Lany results are: operated by results instructional allocation. The dospective study locasing of outcome and completations	LTrauma	71	6
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DePaima 2016	Chest wai stabilization and reconstruction: short and long-term results 5 years after the introduction of a new titanium plates system	J Thorac Dis	8	3
DeFreest 2016	Open reduction and internal fixation of rib fractures in polytrauma patients with flail chest	Am J Surg	211	4
Xiong 2019	Efficacy of nickel-titanium memory alloy in the treatment of multiple rib fracture combined with sternal fracture	Exp Ther Med	18	1
Xia 2018	Thoracoscope combined with internal support system of chest wall in open reduction and internal fixation for multiple rib fractures	Exp Ther Med	16	6
Zaw 2015	Epidural Analgesia after Rib Fractures	Am Surg	81	10
Walters 2019	Surgical Stabilization Improves 30-day Mortality in Patients With Traumatic Flail Chest: A Comparative Case Series at a Major Trauma Center	J Orthop Trauma	33	1
Womack 2019	Safety, complications and clinical outcome after ultrasound-guided paravertebral catheter insertion for rib fracture analgesia: a single-centre retrospective observational study	Δnaesthesia	74	5
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Ahmed 1995	σ_{g}	I Thorac Cardiovasc Surg	110	6
Ahmed 1995	Management of flail chest injury: internal fixation versus endotracheal intubation and ventilation Arute nais services in flail chest-a prospertive randomized trial of endural versus parenteral analgesia in me chanically ventilated ICI Latients	J Thorac Cardiovasc Surg Egyntian Journal of Anaesthesia	110	6
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